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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/987,999	11/16/2001	Giovanni Traverso	Q67311	7985

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EXAMINER

WONG, BLANCHE

ART UNIT	PAPER NUMBER
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2667

DATE MAILED: 01/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/987,999	TRAVERSO ET AL.	
	Examiner	Art Unit	
	Blanche Wong	2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 8-10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Specification

2. The disclosure is objected to because of the following informalities:

In the preliminary amendment, dated November 16, 2001:

Examiner suggests replacing – Fig. 2 shows a detailed diagram of a first part of the improved interfacing system – with “Fig. 2 shows a detailed diagram of a peripheral board of the improved interfacing system” because according to Fig. 1, PD stands for peripheral board, of which Fig. 2 is a detailed diagram of Fig. 1.

Examiner further suggests removing the semicolon after the word “and” in the description of Fig. 3.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 3-5** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to cl. 3-5, it is unclear whether said control bytes comprise the bytes indicating frame alignment (cl. 3), the bytes indicating synchronization (cl. 4), and the bytes monitoring the connection and switching of the active board (cl. 5), are the same bytes as "said control bytes comprising at least one of bytes indicating frame alignment, bytes indicating synchronization, and bytes monitoring the connection and switching of the state of said central board" in cl. 1.

5. **Claim 7** is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: a switch matrix.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 1-2,6-7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Norman (U.S. Pat No. 6,011,802) in view of Bottorff et al. (U.S. Pat No. 6,944,163).

With regard to cl. 1, Norman discloses an interface system 164 (gateway, col. 14, ln. 32) for synchronous hierarchy telecommunication networks (SONET and SDH, col. 3, ln. 66-67), said system comprising:

at least a central board 202 (processor) having an active or inactive state (it would have been obvious to a person of ordinary skill in the art that when the processor

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is actively processing, it is in an active state. When it is not actively processing, it is in an inactive state); and

one or more input/output peripheral boards 212,200 (SDH interface, SONET interface) for exchanging data frames and control bytes over a connection between a peripheral board and a central board (“... the SDH interface 212 is connected to a processor 202 which controls the conversion process and reports errors in the conversion, col. 15, ln. 49-58; “The SONET interface 200 is connected to a processor 202 which controls the conversion process and reports errors in the conversion ...”, col. 14, ln. 47-58),

wherein said data frames 102,112 (“the SONET STS-1 communication signal has a frame 102 structure”, col. 4, ln. 41-43; “the SDH communication signal has a frame 112 structure”, col. 5, ln. 8-9) contain said control (overhead) bytes (bytes) (“Each frame 102 consists of nine rows of ninety bytes each. The first three bytes of each row are allocated to transport overhead ... and higher order path overhead 106 (HO POH).”, col. 4, ln. 44-48), comprising at least one of bytes indicating frame alignment, bytes indicating synchronization, and bytes monitoring the connection and switching of the state of said central board (“The transport overhead is comprised of section overhead 108 (SOH) and line overhead (LOH). ...”, col. 4, ln. 49-53 and “The HO POH 106 provides end-to-end OAM support ...”, col. 5, ln. 1-2) (it would have been obvious that there is some connection and switching bytes to provide end-to-end OAM support).

However, Norman fails to explicitly show data frames contains said control bytes comprising at least one of bytes indicating frame alignment, bytes indicating

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synchronization, and wherein said data frames are bitwise converted before being exchanged between the peripheral boards and the central board.

In an analogous art (interface in Fig. 8, col. 8, ln. 66), Bottorff discloses wherein said data frames contains said control bytes comprising at least one of bytes indicating frame alignment (“... the A1 and A2 octets of the synchronous container can be used to realign the respective data streams received through each of the channels ...”, col. 9, ln. 25-26) (A1 and A2 octets of the Transport Overhead) (it would have been obvious that there is some alignment byte to realign), bytes indicating synchronization (it would have obvious that there is some synchronization byte to receive through different channels), and wherein said data frames are bitwise converted (bit-slicing, col. 9, ln. 27-28; bit-align, col. 9, ln. 33; bit-wise aligned data streams, col.. 9, ln. 38-39) (it would have been obvious that there is bitwise conversion within the interface of Fig. 8).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include data frames contains said control bytes comprising at least one of bytes indicating frame alignment, bytes indicating synchronization, and wherein said data frames are bitwise converted before being exchanged between the peripheral boards and the central board. The suggestion/motivation for doing so would have been to interface adjacent high-speed data communication networks. Bottorff, col. 1, ln. 18-19. Therefore, it would have been obvious to combine Bottorff with Norman for the benefit of transport across a synchronous packet switched network fabric, to obtain the invention as specified in claim 1.

With regard to cl. 2, the combination of Norman and Bottorff discloses an interface system according to claim 1.

Bottorff further discloses a local clock (see clock arrows in the interface of Fig. 8).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a local clock. The suggestion/motivation for doing so would have been to interface adjacent high-speed data communication networks. Bottorff, col. 1, ln. 18-19. Therefore, it would have been obvious to combine Bottorff with Norman for the benefit of transport across a synchronous packet switched network fabric, to obtain the invention as specified in claim 2.

With regard to cl. 6, the combination of Norman and Bottorff discloses an interface system according to claim 1.

Bottorff further discloses signaling bytes inserted in the various layers of said data frames for implementing a mapping function of said data frames ("... mapping high speed Ethernet frames into a synchronous container (e.g. ... [SONET] ... [SDH] ... frames ... ", col. 1, ln. 22-31) and in-band signaling (it would have been obvious that all signaling are done with the interface of Fig. 8).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include signaling bytes inserted in the various layers of said data frames for implementing a mapping function of said data frames and in-band signaling. The suggestion/motivation for doing so would have been to interface adjacent high-speed data communication networks. Bottorff, col. 1, ln. 18-19. Therefore, it would have been obvious to combine Bottorff with Norman for the benefit of transport across a

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synchronous packet switched network fabric, to obtain the invention as specified in claim 6.

With regard to cl. 7, With regard to cl. 2, the combination of Norman and Bottorff discloses an interface system according to claim 1.

Norman further discloses at least two central boards (it would have been obvious that an extra processor can be added parallel to the processor for the purpose of redundancy) and Bottorff further discloses local clocks are made interdependent through exchange of time information (see clock arrows in the interface of Fig. 8) (it would have been obvious that there is an exchange of time information where there are arrows in both directions).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include at least two central boards, whose local clocks are made interdependent through exchange of time information. The suggestion/motivation for doing so would have been to interface adjacent high-speed data communication networks. Bottorff, col. 1, ln. 18-19. Therefore, it would have been obvious to combine Bottorff with Norman for the benefit of transport across a synchronous packet switched network fabric, to obtain the invention as specified in claim 7.

Allowable Subject Matter

8. Claims 8-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blanche Wong whose telephone number is 571-272-3177. The examiner can normally be reached on Monday through Friday, 830am to 530pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BW

BW
January 25, 2006


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ELECTRONIC BUSINESS CENTER 22- 1/20/06